Project Management Plan

The project plan is a document that authorizes the project manager to apply organizational resources to project activities and to proceed with executing and controlling the project plan.

Project Number: Mb11

Project Title: Enterprise Implementation of Arc Hydro Enhanced Database

Project Manager: Lakin Flowers

Project Sponsors: Linda Lindstrom
Jayantha Obeysekera
Dean Powell
Steve Reel
Keith Smith
Robb Startzman
Sharon Trost

Level of Empowerment: This project plan has been initiated by the Information Technology Department and authorizes the project manager to expend District resources to execute this project plan for the Enterprise Implementation of Arc Hydro Enhanced Database project.

Approvals:

_____	_____
Project Sponsor – Linda Lindstrom	Date
_____	_____
Project Sponsor – Jayantha Obeysekera	Date
_____	_____
Project Sponsor – Dean Powell	Date
_____	_____
Project Sponsor – Steve Reel	Date
_____	_____
Project Sponsor – Keith Smith	Date
_____	_____
Project Sponsor – Robb Startzman	Date
_____	_____
Project Sponsor – Sharon Trost	Date

Document Revision Number: 0.6
Document Revision Date: 03/10/05
Filename: ArcHydro PMP 20050310 FINAL.doc
Location: West Palm Beach, FL

Document Revision History:

Version	Date	Revised By	Description of Changes
0.1	01/10/05	Lakin Flowers	Initial creation of Project Management Plan.
0.2	02/21/05	Lakin Flowers	Feedback incorporated into per-sponsor review PMP draft.
0.3	03/01/05	Lakin Flowers	Project Sponsor draft PMP review feedback incorporated into document.
0.4	03/01/05	Lori Weaver	ITPMO review
0.5	03/09/05	Lakin Flowers	Final PMP Revisions
0.6	03/10/05	Lori Weaver	Final ITPMO Revisions

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Purpose of Project Management Plan

The purpose of a Project Management Plan is to define all the necessary components for project management, tracking and oversight. The scope of this document is to define the Project Management Plan for The Enterprise Implementation of Arc Hydro Enhanced Database project. Issues, risk, schedule, and budget will be tracked and reported in accordance with the procedures and guidelines defined in this document.

Project Scope

The scope of this project involves implementing the Arc Hydro Enhanced Database (AHED) populated with required datasets for the jurisdiction of the District and made available to business units on a District wide basis. The project builds upon the AHED prototype. This project includes:

- Data assessment
- Data preparation
- Developing change control processes to incorporate design modifications
- Developing work-flows for data maintenance and synchronization
- Establishing GIS tools for data loading and maintenance
- Developing application tools for visualization and analysis
- Providing a quality-assured and documented source of information to multiple District business units
- Implementing physical connectivity and update processes between AHED and project geodatabases
- Establishing outreach and training programs to support product implementation
- Developing an implementation plan

Key deliverables for the project include:

- Arc Hydro Enterprise Database (AHED) populated with District wide information of identified hydrographic and hydrologic data
- Documented data workflow
- Documented Change Control processes
- Formalized Maintenance Program and stewardship process
- ArcGIS tools for data updates and maintenance
- Tools for visualization and analysis
- Programs and tools for training and outreach

Project Objectives and Goals

Objectives

- Provide a district-wide geographically comprehensive database of hydrographic and hydrologic data layers as defined in the AHED prototype schema
- Provide spatial access to existing time series databases including DBHYDRO and NEXRAD
- Reduce data redundancy by providing a quality assured single source of GIS hydro layers within the enterprise GIS database
- Provide a documented, formalized process for maintaining the AHED database and provide updates that meet the operational requirements of the affected business units
- Provide a common framework for project level data and application development
- Work in conjunction with the overall objectives of the data management project
- Once implemented, Arc Hydro will provide an extensible foundation upon which additional datasets and tools can be added.

Measurable Project Goals

Process Improvement Benefits

- 75% reduction in end-user access time to hydrologic and hydrographic data (estimated 1 FTE workload reduction per year).

- 20% reduction in Quality Assurance / Quality Control workload related to hydrologic and hydrographic data. Six business groups assigned to impacted data stewardship activities will each realize a 20% reduction in QA/QC efforts related to hydrologic and hydrographic data (1.2 FTE QA/QC workload reductions per year).
- 10% reduction in service-time for special data requests to support external data requests, contractors, and internal projects (1 FTE workload reduction per year).
- Access to accurate, consistent data enables better decision making.
- Access to thematic data in a single, maintained source database increases data usability, increases user confidence, and decreases uncoordinated effort spent on disparate, distributed thematic data sources.

System & Database Administration Benefits

- 50% reduction in system and database administration workload related to hydrologic and hydrographic GIS data and systems. Results from reducing production instances of hydrologic and hydrographic from five to one (.75 FTE workload reduction per year).

Future Development

- 25% reduction in development time for future hydrologic and hydrographic end-user and analytical tools (estimated 1.25 FTE workload reductions per year, based on 4 development effort with four month duration, utilizing 4 FTEs).

Summary

- Enterprise Arc Hydro Implementation will annually enable ~5 FTEs engaged in using and supporting hydrologic and hydrographic data to be redirected to other work activities.

Related Projects

Identified below is a list of projects that have key relationships and/or dependencies with the Enterprise Arc Hydro project.

Consolidated Data Management Program– Develop and implement systems, standards, processes and procedures to effectively and efficiently organize, archive, and manage raw and simulated District-wide data. The Enterprise Arc Hydro rollout is a project within the Consolidated Data Management Program.
Arc Hydro Prototype Projects – These projects are in-progress Arc Hydro prototype engagements that utilized the Arc Hydro framework.
Task 3 – Kissimmee River Restoration and Hydroperiod Analysis
Task 4 – Basin Flood Modeling - Hydrologic and Hydraulic Model Integration
Task 5 – ODSS Integration
ArcGIS on Citrix Rollout – This project enables ArcGIS to District users on a centralized Citrix platform.
ArcGIS 9.0 Upgrade – District-wide upgrade to ArcGIS 9.0.
ArcSDE Oracle Database Management Enhancement – This project enables SDE Versioning of enterprise-level GIS databases.
NexRad Data Acquisition – Provides District-wide NexRad gauge adjusted rainfall data.
USGS NHD Everglades HUC Data Acquisition – Provides 24K data of the Everglades HUC.
Network Optimization Study – Monitoring point location optimization.
RSM Data Pre-processing and GUI Development – The GIS Development Section and the RSM GUI team have been working to create a geodatabase design to support model input. This effort is proceeding concurrently with the District's Arc Hydro implementation. The current geodatabase design was created based on requirements of the RSM and stores GIS layers for the District's primary system; including canals, structures and watersheds. It is the intent of the Arc Hydro Enterprise implementation project to coordinate integration of the RSM geodatabase model with the District's Enterprise Arc Hydro database as the two projects move forward.

Project Oversight

The project oversight team is responsible for providing senior level oversight to this project. They are empowered to conduct formal and/or informal reviews in order to measure project health. Upon review they will communicate issues to the Project Manager and other appropriate District members. Project oversight members will receive

regular project status communication as described in the project Communication Plan. Project oversight members include:

Jim Cameron, GIS and Web Division Director
Trevor Campbell, Consultant
Tim Minter, GIS Data Manager
Carla Palmer, Stormwater Management Division Director
Lori Weaver, IT Project Management Office Manager
Derek Yu, Applications Division Director

Work Breakdown Structure (WBS)

The Enterprise AHED initiative will be undertaken in four inter-related work streams. The work streams are:

Work Stream 1: Implement AHED Pilot
Work Stream 2: Prepare Enterprise Hydro-Data
Work Stream 3: Maintain Alignment with Project-level Efforts
Work Stream 4: District-wide Deployment

Work streams 1, 2, and 4 will have distinct WBS' based on the IT PMO's standard Work Breakdown Structure. There will be cross work stream dependencies and milestones, and work stream level WBS's will be rolled up to a project-level WBS to enable project-level management and reporting. The complexity of each work stream WBS will vary based on individual work stream requirements. Work Stream 3 (*Maintain Alignment with Project-level Effort)* is primarily a communication and checkpoint effort. The results of the Work Stream 1 (*Implement AHED Pilot)* will determine the final scope and timing of Work Stream 4 *(District-wide Deployment)*. A high-level WBS for each work stream is described below. Detailed project schedules are documented in the Project Schedule section of this document. The four work stream approach will enable the following benefits:

- Pilot environment allows testing of data, tools, and processes in a controlled environment before enterprise-wide implementation.
- Early start on enterprise-level data cleanup and preparation to ensure a high-level of data quality once enterprise implementation begins.
- Continued delivery of project-level business benefits through task level efforts (Hydro Period, H&H, ODSS, and RSM).
- Early delivery of business value to specific business functions that participate in the pilot.

Each work stream, except where noted, will utilize a standard approach comprised of the following phases:

1.0 - Initiation & Planning
2.0 – Procure Needed Resources
3.0 – Analyze / Document Requirements
4.0 – Design System
5.0 – Development
6.0 – Testing
7.0 – Deployment
8.0 – Training
9.0 - Closeout

WORK STREAM 1 – Implement AHED Pilot

This effort establishes a single AHED database with a limited geographic dataset. The database will be targeted for delivery to a defined pilot user base, and will be delivered with specialized tools to improve data utilization for the pilot users. The effort will include the development and delivery of support processes to ensure the pilot product can be maintained and enhanced in a controlled, successful manner. The scope of this work stream includes:

- Use Prototype Task-Level efforts as a starting point
- Define pilot-level geographic extent
- Define pilot-level data sources
- Implement single AHED dbase supporting defined geographic extent and data sources
- Establish production environment & processes
- Establish data integration processes and workflow
- Develop Change Control processes for AHED and inter-dependent data bases and data sources
- Develop and test outreach and training plans
- Develop / enhance AHED Tools
- Validate relationship among multiple scales of data

WORK STREAM 2 – Prepare Enterprise Hydro-Data
This effort addresses the preparation and cleanup of data to be loaded into the AHED database. All data included in AHED will need to adhere to quality control standards and processes to ensure the information is accurate and complies with District standards. Data preparation priorities will be determined by data needed to support Work Stream 1 (*Implement AHED Pilot*), Work stream 3 (*Maintain Alignment with Project-level Efforts*). The scope of this work stream includes:

- Identify and acquire AHED data sources
- Define data standards based on AHED Data Model
- Define data QA / QC processes
- Align data preparation efforts with AHED Pilot Change Control processes and schema finalization
- Begin process of cleaning data to comply with AHED Data Model Standards
- Incorporate prepared data into AHED

An external vendor will be engaged to perform data cleanup activities. Once data has been delivered, it will undergo quality assurance testing by SFWMD project team members. Data will be delivered and made available to SFWMD users in four iterations (Dataset 1, Dataset 2, Dataset 3, and Dataset 4) over a 12 month period. The dataset implementations will be coordinated to align with Arc Hydro Enterprise Rollout releases.

WORK STREAM 3 – Maintain Alignment with Project-Level Efforts
This effort is primarily a communication and alignment mechanism to ensure that project-level work can continue to add value to the District while development of Enterprise AHED moves forward. There will be milestones in the Enterprise AHED effort that will impact project-level tasks, so close coordination between these efforts is required. Additionally it is anticipated that project-level efforts will influence Enterprise AHED priorities. Tools and datasets being developed in project-level efforts will be incorporated into Enterprise AHED where appropriate. Specific scope items for this effort include:

- Maintain alignment with existing project-level tasks (Hydro Period, H&H, ODSS, RSM)
- Use these projects as test-beds to:
    - validate AHED Data Model Framework
    - test and improve data integration and synchronization processes
    - test and improve Change Control processes
    - pilot and implement new tools
- Identify priority and new data sources

WORK STREAM 4 – District-wide Deployment
This effort involves deploying AHED as a District-wide resource. All hydro-data defined by the Arc Hydro data model will be incorporated into AHED and be made available to all District employees and partners. New tools to facilitate District-wide data usage will be developed and deployed. Production support procedures developed in

Work Steam 1 will be applied to AHED. Data incorporation and business function rollout will be done in a phased release approach. Specific scope items for this effort include:

- Populate AHED with District wide data set
- Identify and introduce new data sources
- Deliver AHED and AHED tools to all business functions and approved business partners
- Produce new AHED tools aligned with business functions' needs

Enterprise rollout will occur in 4 releases over a 12 month period (see Figure 1). Where possible, releases will include dataset deliveries from Work Stream 2. The content of each release will be based on business priority and system compatibility.

At the conclusion of Work Stream 4, the Enterprise Implementation of Arc Hydro will be complete and Arc Hydro will be established as an operational tool at the District. At that time, business requirements should be reviewed to determine additional potential datasets and tools that could be incorporated into Arc Hydro. These items would be prioritized, justified, and planned as new projects.

Phase Implementation Timing
The following table and diagrams illustrate the high-level phase delivery schedule and approach for the Enterprise Arc Hydro project. Detailed Work Breakdown Structures for each project work stream can be found in the Project Schedule section of this document.

Enterprise Arc Hydro Phase	Start Date	End Date
Work Stream 1	Mar '05	Dec '05
Work Stream 2	Jun '05	Apr '07
Work Stream 3	Mar '05	Sep '07
Work Stream 4	Jan '06	Sep '07

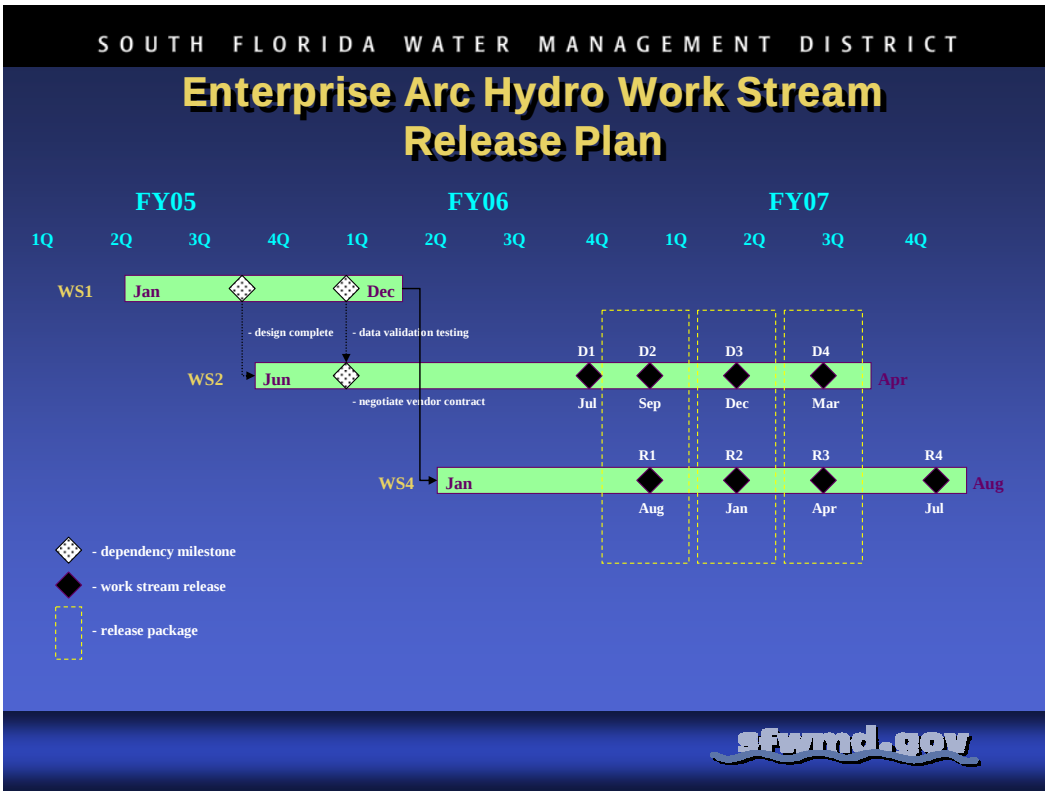

Figure 1: Enterprise Arc Hydro Work Stream Release Plan

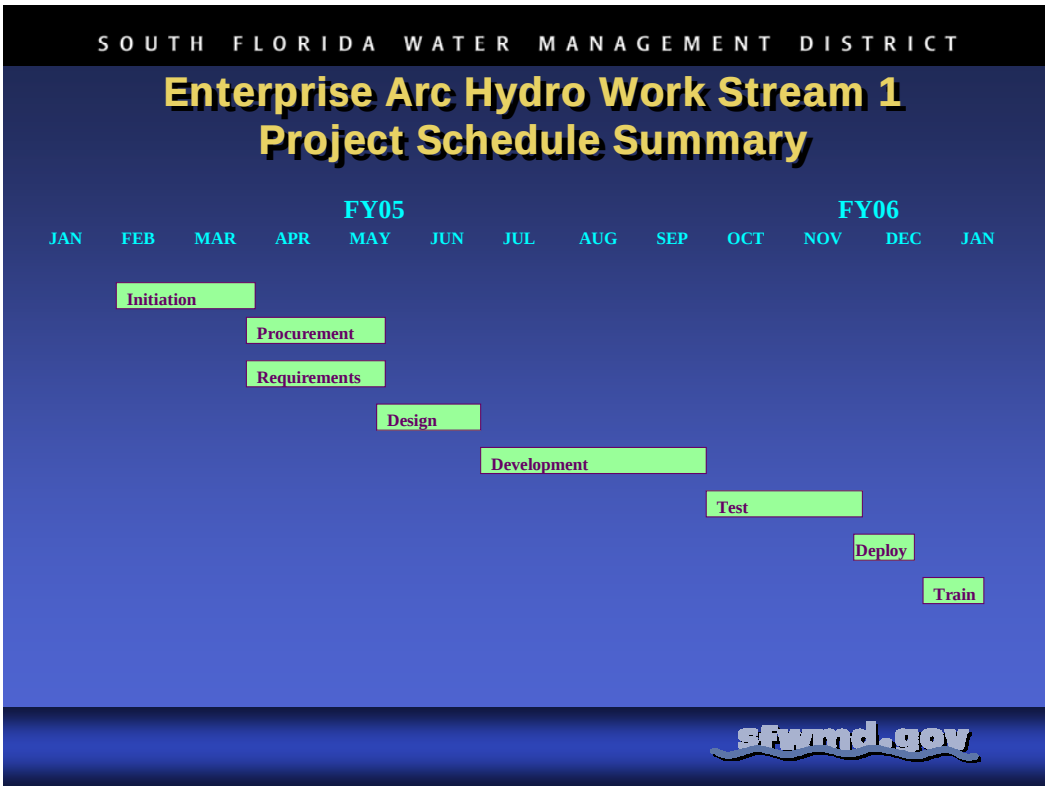

Figure 2: Work Stream 1 Project Schedule Summary

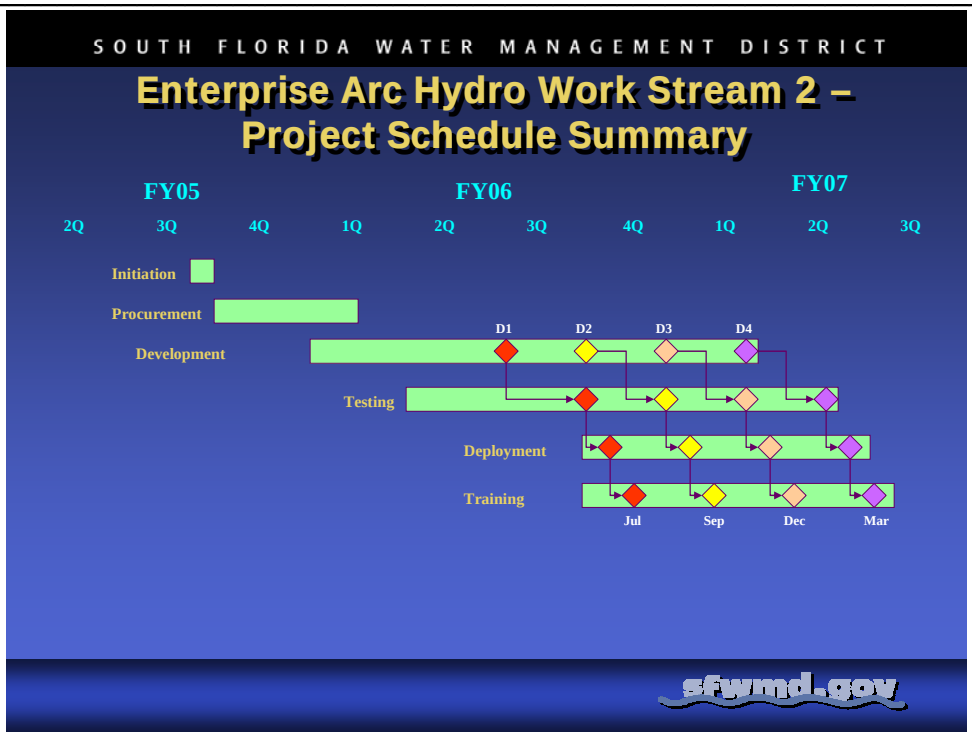

Figure 3: Work Stream 2 Project Schedule Summary

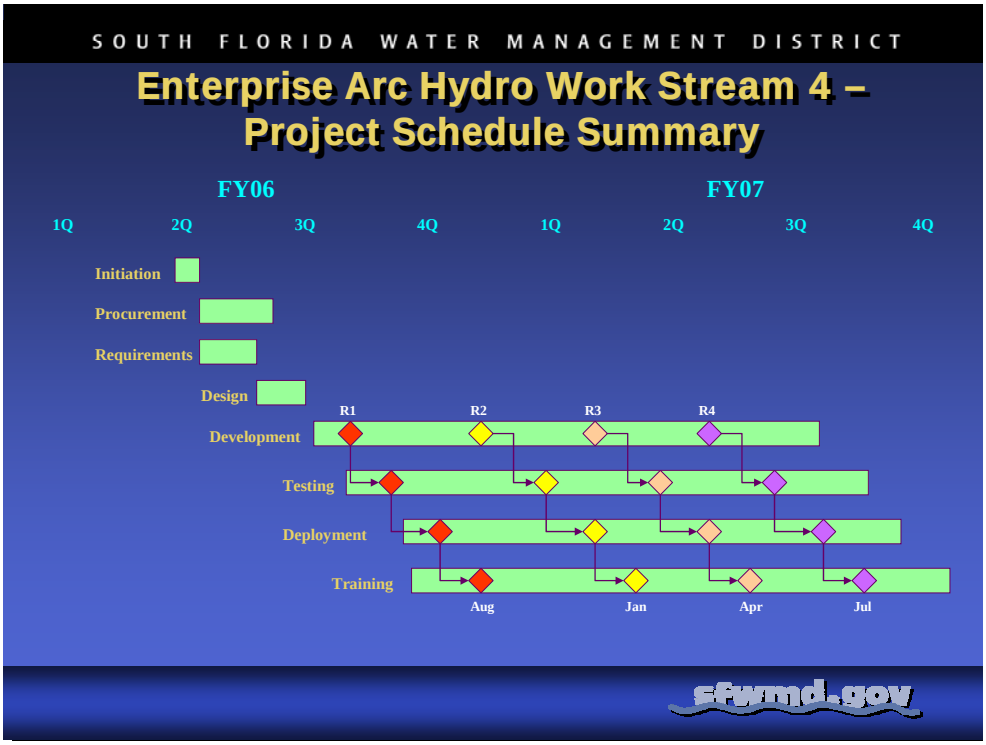

Figure 4: Work Stream 4 Project Schedule Summary

Organizational Breakdown Structure

The project schedule (MS Project) identifies task specific resource and resource group assignments.

Communications Plan

The Communications Plan defines the components necessary for effective and timely communications during the project life cycle. The plan defines the information that must be shared between the Project Manager, Project Sponsor, Project Team and Project Stakeholders.

Project Sponsors

Name	Title	Email Address	Dept/Div Number
Linda Lindstrom	Department Director, Environmental Resource Assessment	llindst@sfwmd.gov	460/4610
Jayantha Obeysekera	Department Director, Office of Modeling	jobey@sfwmd.gov	450/4510
Dean Powell	Department Director, Watershed Management	dpowell@sfwmd.gov	440/4410
Steve Reel	Deputy Department Director, Ecosystem Restoration	sreel@sfwmd.gov	470/4711
Keith Smith	Deputy Department Director, Water Supply	ksmith@sfwmd.gov	430/4311
Robb Startzman	Department Director, SCADA & Hydro Data Management	rstart@sfwmd.gov	570/5710
Sharon Trost	Department Director, Information Technology	strost@sfwmd.gov	630/6310

Core Project Team

Name	Title	Email Address	Dept/Div No.	Phone Ext.
Lakin Flowers	Project Manager Information Technology	lflowers@sfwmd.gov	630/6320	2639
Ram Jadvani	Sr. Database Administrator	rjadvan@sfwmd.gov	630/6360	2322
Michele Maierhofer	Geographer	mmaier@sfwmd.gov	630/6320	6056
Maryam Mashayekhi	Sr. GIS Data Steward	mmashay@sfwmd.gov	630/6320	2973
Tracie Streltzer	GIS Systems Administrator	tstrelt@sfwmd.gov	630/6320	6134
TBD	Business Analyst 1			
TBD	System Analyst 1			
TBD	EGIS Data Steward 1			
TBD	Developer 1			
Chris Carlson	Ecosystem Restoration Lead	ccarlso@sfwmd.gov	4750	6143
Chandra Pathak	Ops / Hydro Data Management Lead	cpathak@sfwmd.gov	5733	2567
Yao Yan	ERA Lead	yyan@sfwmd.gov	4644	2077
Suelynn Dignard	OoM Lead	sdignard@sfwmd.gov	4540	6589
Rachelle Grein	OoM Lead	rgrein@sfwmd.gov	4540	6899
Cindy Whelan	Water Supply Lead	cwhelan@sfwmd.gov	4312	6821
Tim Liebermann	Watershed Management Lead	tlieber@sfwmd.gov	4450	7788
TBD	Consolidated Data Management Lead			
Data Vendor				

Subcommittees

Subcommittee Name	Members	Email Address	Phone Ext.
Project Management Oversight	Jim Cameron Carla Palmer Derek Yu Lori Weaver Tim Minter Trevor Campbell	jcameron@sfwmd.gov cpalmer@sfwmd.gov dyu@sfwmd.gov lweaver@sfwmd.gov tminter@sfwmd.gov tcampbell@sfwmd.gov	6037 7790 2528 6079 2782 2877
Change Control Board	Jim Cameron Ken Stewart Ken Konyha Chris Carlson Stan Orlowski Sue Denman	jcameron@sfwmd.gov kstewart@sfwmd.gov kkonyha@sfwmd.gov ccarlso@sfwmd.gov sorlowsk@sfwmd.gov sdenman@sfwmd.gov	6037 2794 2024 6143 2069 6019
Technical Assessment Team	Ram Jadvani Tracie Streltzer Kurt Saari Maryam Mashayekhi Michele Maierhofer System Analyst 1	rjadvan@sfwmd.gov tstrelt@sfwmd.gov ksaari@sfwmd.gov mmashay@sfwmd.gov mmaier@sfwmd.gov	2322 6134 6394 2973 6056
Quality Assurance	Lori Weaver Tim Minter	lweaver@sfwmd.gov tminter@sfwmd.gov	6079 2782

Other Stakeholder Groups

Stakeholder Group	Members	Email Address	Phone Ext.
Consolidated Data Management Project Team	Trevor Campbell	tcampbel@sfwmd.gov	2877
GIS Working Group	Kurt Saari - Chair Terri Bennett Frank Chang Kent Feng Rachelle Grein Sue Hohner Tim Liebermann Dennis Meierer Cindy Whelan Juan Tobar Sharon Wallace	ksaari@sfwmd.gov	6394
Inter-Agency Arc Hydro Interest Group	Lakin Flowers - SFWMD Diana Burdick - SWFWMD Sandra Fox – SJRWMD Mark Deitrich – FDEP Dan Vockler - USACE	lflowers@sfwmd.gov	2639

Stakeholder Group	Members	Email Address	Phone Ext.
GIS Data Steward Group	Bonnie Rose Brian Turcotte Cindy Whelan Dennis Meierer Frank Chang Frank Razem Gelcys Nielsen Heather Kostura - Chair Janet Donnely Jimmy Kramp Juan Tobar Judy Canada Ken Chen Ken Rutchey Matt Hinton Michele Maierhofer Mike Broker Mike Kohler Rachelle Grein Rick Householder Sharon Wallace Sue Hohner Terri Bennett Tim Liebermann Yao Yan	hkostura@sfwmd.gov	2998

Communications Outreach

Regular Project Team Status Meetings
Core Project Team Status Meeting – This meeting is held weekly and is attended by members of the core project team. The meeting is hosted by the project manager, and serves as a forum to review project plan status, review current task status, review upcoming task status, discuss issue status, discuss action items status, and any other project related items deemed important by the project team. Meeting minutes will be produced and distributed.

Project Stakeholder Meeting – This meeting is held monthly and is attended by project sponsors, stakeholders, oversight members, and specific core team members as needed. The meeting is hosted by the project manager, and provides a forum to update stakeholders on the project's status in terms of scope, schedule, and budget. The meeting addresses key items and issues that impact the project's direction, and allows stakeholders to provide feedback on the project's disposition.

Status Report to Sponsors

Weekly Project Status Report – The report will be compiled and published on a weekly basis to the Core Project Team, and Project Stakeholders. The report will be distributed via email and provides a project status indicator (Green, Yellow, Red), recent accomplishments, current and near-term project activities, issues, and action items. The status report will use the standard status report template. The project manager is accountable for its distribution.

Stakeholder Status Report – This report is produced in conjunction with Project Stakeholder meetings and provides information pertaining to the project's status in the context of scope, schedule, and budget; project life-cycle status, high-level accomplishments, key issues, and upcoming project activities. The report will be designed to facilitate the Project Stakeholder Meeting and will be delivered in PowerPoint format. The project manager is accountable for its distribution.

Project Schedule Development

The attached MS Project Plans contains detailed itemization of the project's activity list, task resource requirements, duration estimates, activity dependencies, and schedule. The detailed project schedule tasks assignments for Work Stream 4 will be established once the Work Stream 1 is delivered.


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archydro_ws2_0503 01.mpp


archydro_ws4_0503 01.mpp

Project Cost Estimating

Project costs are estimated in the table below. In addition to the cost of procured items, the Enterprise Arc Hydro project requires internal IT staff resource commitments. The following is a cost & resource summary worksheet for the project.

Type	FY'05	FY'06	FY'07	Comments
Contract Labor:				FY'05 budgeted – line item 25390
Data Scrubbing		$324,000	$189,000	
Tool Development	$30,000	$144,000	$144,000	
Business Analyst	$60,000	$144,000	$144,000	
Systems Analyst	$60,000	$144,000	$144,000	
Total Contract Labor	$150,000	$756,000	$621,000	
Infrastructure		$50,000		
Training & Outreach		$20,000	$5000	
Total Procured Costs	$150,000	$826,000	$626,000	$1,602,000
Internal Labor Costs - IT:				
FTE Count				
Project Manager	.5	.5	.5	
System Administrator	.25	.25	.25	
Database Administrator	.25	.25	.25	
Data Stewards	2	2	2	
Management & Admin	.25	.25	.25	
Total	3.25	3.25	3.25	
Internal Labor Costs	$325,000	$325,000	$325,000	$975,000
TOTAL COST	$475,000	$1,151,000	$951,000	$2,577,000
Other Resources				
Internal Departments				Estimated .25 FTE per business unit per year
CERP / GSA	.5	.25	.25	

Project Budget/Funding Requirements

The following budget items will fund the Enterprise Arc Hydro project:

Qty	Item	Name	Fund	Activity	Amount
1	25390	FY05 Budget	101	Mb00	$150,000
1	TBD	FY06 Budget	101	Mb00	$826,000
1	TBD	FY07 Budget	101	Mb00	$626,000
				Grand Total	**$1,602,000**

Project Resource Management Plan

The resource management strategy is to use a combination of internal and contracted resources to execute the PMP. A Statement of Work (SOW) will be utilized to procure contractual resources.

Each of the following internal resources will be needed for a maximum of 25% of their time during the life of the project. Periods of expected high utilization (25%) are:

March – July, 2005
November, 2005 – February, 2006
July, 2006 – April, 2007

The remaining time resource utilization of the above-named resources will be low to medium.

Name	Timeframe Needed	Division #
Chris Carlson	Mar 2005 – Dec 2007	4750
Chandra Pathak	Mar 2005 – Dec 2007	5733
Yao Yan	Mar 2005 – Dec 2007	4644
Suelynn Dignard	Mar 2005 – Dec 2007	4540
Rachelle Grein	Mar 2005 – Dec 2007	4540
Cindy Whelan	Mar 2005 – Dec 2007	4312
Tim Liebermann	Mar 2005 – Dec 2007	4450

Risk Management Plan

RISK MANAGEMENT WORKSHEET

				Risk Management Strategy			
				Prevention Plans		Contingency Plans	
Risk	Impact 3=High 2=Med 1=Low	Occurrence Probability (%)	Exposure (Impact x Prob.)	**Mitigation Activities**	**Trigger Condition**	**Response**	**Status**
Natural Risks: Weather, etc.							
Unforeseen Natural Disaster makes labor, infrastructure, or facility resources unavailable.	3	25	75	Setup communication path to determine when emergency conditions subside and resources become available. Communicate project impacts to Project Sponsors, Oversight members as soon as possible.	Resources are unavailable.	Obtain resource availability estimates. Determine impact to project plan. Set-up meeting with Project Sponsors, Oversight members, and project team members to communicate new project status and schedule.	Open
Man Made Risks: vandalism, sabotage, military service activation, accidents, etc.							
Contracted resources not procured on a timely basis.	3	50	150	Distribute SOW to potential vendors with expedited turnaround time. Aggressively conduct interviews to ensure appropriate resources are obtained.	Resource not available to begin critical path work as scheduled.	Determine if internal resource is available on a temporary basis to fulfill needed critical path role. Express need to Division Directors to obtain temporary resource.	Open

Inability to obtain key internal resources	3	25	75	Work proactively with project sponsors to identify resource needs and acquire needed resources. Prioritize target departments based on their ability to apply resources to the project.	Resources not available.	Meet with project sponsors to obtain temporary resources to assist with project activities. Re-prioritize Arc Hydro engagements based on resource availability.	Open
Infrastructure resources not procured and made available on a timely basis	3	50	150	Identify key infrastructure components that are needed for the project, and existing infrastructure components than can be utilized on a temporary basis.	Resources not available.	Meet w/ IT Division Directors to get approval to obtain temporary infrastructure components.	Open
Loss of key project team resource.	3	25	75	Meet with project team on a regular basis to ensure task items are communicated. Identify critical roles and formally ensure some degree of resource redundancy in these areas. Develop 'quick-procurement' procedures to back-fill needed position.	Resource is not available to perform required project tasks.	Request backup resource to assume primary role on a temporary basis Backfill position using 'quick-procurement' procedures.	Open
Technological Risks: viruses, system outages, etc.							
Pre-requisite projects experience delays	3	50	150	Maintain close alignment with pre-requisite project plans and managers. Ensure Arc Hydro project dependencies are known.	Pre-requisite project experiences a delay.	Work with pre-requisite project managers to develop mitigation approach on a case-by-case basis. Adjust project schedule to address delay.	Open
AHED Task effort Change Requests causes schedule / budget / resource impact to Enterprise Arc Hydro project.	2	50	100	Identify key inter-project dependency milestones. Implement Change Control processes at the earliest possible date.	Enterprise Arc Hydro project schedule / budget / resources are impacted	Utilize established Change Control processes.	Open
Enterprise Arc Hydro effort causes schedule / budget / resource impact to AHED Task efforts.	2	50	100	Identify key inter-project dependency milestones. Implement Change Control processes at the earliest possible date.	AHED Task project schedule / budget / resources are impacted.	Utilize established Change Control processes.	Open

Enterprise Implementation of Arc Hydro Enhanced Database
Project Management Plan

Change Control Procedures

Project Management Plan revisions are defined as changes that reflect significant changes in project scope, schedule, or cost. Project Management Plan revisions may be scheduled or unscheduled depending on the nature of the change and/or occurrence of a significant event/milestone or phase of the project life cycle. The Enterprise Arc Hydro project will use the following thresholds to determine in the Change Control Process is initiated:

- Cost threshold >10% tolerance
- Schedule Threshold > 2 weeks tolerance
- Scope Threshold zero tolerance

Revisions to the Project Management Plan will require formal approval by the project Sponsors and Change Control Board. . The change request will be documented by the requestor; and assessed by appropriate project team members. If a change control tolerance is exceeded, the project manager will prepare a Project Revision & Impact Description and convene a meeting of the Project Sponsors and the Change Control. The project sponsors and Change Control board will approve / deny changes to the project plan. If the revision is approved, the project manager will re-baseline the project plan, and communicate impacts to all project team members.

Quality Review Procedures

Members of the Project Quality Assurance Board will review the project's disposition. The project manager will provide the QA Board with project documentation and a quality review session will be conducted. Quality Review Sessions will be held in conjunction with the following milestones:

- PMP Approval
- Work Steam 1 – Pilot Design & Requirements Complete
- Work Stream 1 – Change Control Process Implemented
- Work Steam 1 – Testing Complete
- Work Stream 1 Complete
- Work Stream 2 – Data Acquisition Process Design Complete
- Work Stream 2 – Data Acquired Milestone 1 Complete
- Work Stream 4 – Design & Requirements Complete
- Work Stream 4 – Release 1 Complete
- Work Stream 4 Complete

Acceptance Criteria

Enterprise Arc Hydro acceptance criteria will be measured based on the collective results of the project's Test Plan. The planned testing components include unit test, system integration test, and user acceptance test. During each test phase defects will be captured and classified. The defect classification levels are:

Critical: The defect results in failure of the complete software system, of a subsystem, or of a software unit within the system.

Major: the defect results in the failure of the complete software system, of a subsystem, or of a software unit within the system. There is no way to remedy the failed component(s), however, there are acceptable processing alternatives which will yield the desired result.

Average: The defect does not result in failure, but causes the system to produce incorrect, incomplete, or inconsistent results, or the defect impairs the systems usability.

Minor: The defect does not cause a failure, does not impair usability, and the desired processing results are easily obtained by working around the defect.

Exception: The defect is the result of non-conformance to a standard, is related to the aesthetics of the system, or is a request for an enhancement. Defects at this level may be deferred or even ignored.

While it is the intent of the project team to release zero defects the following acceptance criteria will be imposed at release.

Zero critical, major or average defects will be released into production.

Minor and exception defects will be reviewed with the Project Sponsors and Project Oversight Team and a release disposition will be determined.

Project Closeout Procedures

The Enterprise Arc Hydro project will be reviewed and the following actions must be completed during the closeout phase.

- All open defects must be classified and determined when they will be corrected or if they will be corrected.
- All oversight issues must be closed or an action plan must be created.
- A project closure meeting must be conducted to collect and review lessons learned.
- Appropriate recognitions must be made by the Project Sponsors and Project Manager.
- All Project Sponsors must sign-off closing the project.